

Appl. No. 10/824,854  
Reply to Office Action of November 21, 2006

Attorney Docket No. 2003-0964 / 24061.150  
Customer No. 42717

### REMARKS

Claims 17-27 are present in the application. In view of the remarks that follow, Applicants respectfully request reconsideration.

#### Premature Finality

Applicants respectfully traverse the finality of the present Office Action (mailed on November 21, 2006). In the Office Action, the Examiner presents new grounds of rejection that were not presented in the most recent prior Office Action (mailed on July 18, 2006). For example, the present Office Action cites a new reference (Abadeer U.S. Patent Application Publication No. 2004/0036118), and uses this new reference to impose a new ground of claim rejection. As another example, the present Office Action imposes an obviousness rejection under 35 U.S.C. §103 based on Montgomery U.S. Patent Application Publication No. 2004/0208454. In contrast, the most recent prior Office Action did not include any §103 rejection based on Montgomery.

MPEP 706.07(a) specifies that an Office Action shall not be final "where the examiner introduces a new ground of rejection that is neither necessitated by applicant's amendment of the claims nor based on information submitted in an information disclosure statement". Since issuance of the prior Office Action on July 18, Applicants have not amended any claim, and have not submitted any information disclosure statement. Consequently, since the present Office Action presents new grounds of rejection, it cannot properly be designated a "final" action.

At the bottom of page 8 in the present Office Action, the Examiner asserts that "Applicant's 4/11/06 amendment necessitated the new ground(s) of rejection". However, this assertion is not true. Applicants' April 11 Amendment was filed more than two months before issuance of the July 18 Office Action, and is irrelevant to the issue of whether or not the present Office Action can be "final". If that April 11 Amendment necessitated any new grounds of rejection (such as the §103 rejection based on Montgomery), then the Examiner was required to present those new grounds in the prior Office Action of July 18, and the Examiner could have and should have done so. Similarly, if the newly-cited Abadeer reference is currently considered relevant to the pending claims, then Abadeer was equally relevant to those same claims at the

Appl. No. 10/824,854  
Reply to Office Action of November 21, 2006

Attorney Docket No. 2003-0964 / 24061.150  
Customer No. 42717

time of issuance of the July 18 Office Action, and the Examiner could have and should have cited Abadeer and applied it.

For the foregoing reasons, the new grounds of rejection in the present Office Action were not necessitated by Applicants, and the present Office Action therefore cannot properly be designated a "final" rejection. It is respectfully submitted that the finality must be withdrawn, and notice to that effect is respectfully requested.

Objection to Incomplete Office Action

Applicants respectfully object to the present Office Action, because it is not complete. More specifically, the provisions of MPEP §707.07(f) instruct examiners that:

Where the applicant traverses any rejection, the examiner should, if he or she repeats the rejection, take note of the applicant's argument and answer the substance of it.

In the prior Office Action mailed July 18, 2006, the Examiner presented an anticipation rejection under 35 U.S.C. §102, based on Lin U.S. Patent Application Publication No. 2005/0224786. Then, in a Response filed on August 11, 2006, Applicants presented a detailed argument against this §102 rejection. In the present Office Action, the Examiner repeats the same §102 rejection, word-for-word. As to Applicants' arguments against the §102 rejection, the Examiner merely states at lines 12-13 on page 8 that "Applicant's arguments filed 04-11-2006 have been fully considered but they are not persuasive".

Thus, the present Office Action repeats a §102 rejection from the last Office Action, but fails to comply with the PTO requirement that the Examiner must "take note of the applicant's argument and answer the substance of it" (MPEP §707.07(f), emphasis added). Accordingly, it is respectfully submitted that the present Office Action is not complete, and therefore must be withdrawn and replaced with a new and complete Office Action that complies with MPEP 707.07(f).

Appl. No. 10/824,854  
Reply to Office Action of November 21, 2006

Attorney Docket No. 2003-0964 / 24061.150  
Customer No. 42717

Independent Claim 17 is Not Anticipated by Abadeer

Independent Claim 17 stands rejected under 35 U.S.C. §102 as anticipated by newly-cited Abadeer U.S. Patent Application Publication No. 2004/0036118. This ground of rejection is respectfully traversed. The PTO specifies in MPEP §2131 that, in order for a reference to anticipate a claim under §102, the reference must teach each and every element recited in the claim. Claim 17 recites:

a patterned feature . . . comprising at least one electrode,  
the electrode being situated proximate the plurality of doped  
regions; and  
a sill located within the electrode, the sill comprising at  
least one impurity and adapted for modifying an electrical property  
of at least one member adjacent the electrode.

In the §102 rejection, the Examiner relies on the embodiment shown in Figure 9B of Abadeer. However, there are several differences between Claim 17 and Figure 9B. First, the Examiner asserts that the "electrode" recited in Claim 17 is met by the gate 402 and the silicide 802 in Figure 9B. However, in Figure 9B, an electrically insulating oxide layer 306 is disposed between the gate 402 and each of the two silicide regions 802. In other words, the gate 402 is electrically separated from each of the silicide regions 802. Therefore, and contrary to the assertions in the Office Action, the gate 402 and the silicide regions 802 do not collectively form one "electrode".

A second problem with the rejection is that the Examiner asserts the "sill" recited in Claim 17 is met by the silicide 802 in Abadeer. However, Claim 17 recites "a sill located within the electrode". If the silicide 802 is considered to be a "sill", then it is not disposed "within" any electrode. On the other hand, if the silicide 802 is considered to be an "electrode", then there is no separate and distinct structure within it that could reasonably be considered to be a "sill". The silicide 802 cannot be considered to be both the recited "electrode" and also the recited "sill".

A third problem with the rejection is that Claim 17 recites

Appl. No. 10/824,854  
Reply to Office Action of November 21, 2006

Attorney Docket No. 2003-0964 / 24061.150  
Customer No. 42717

a patterned feature . . . comprising at least one electrode, . . .  
and . . . a sill located within the electrode.

As noted above, the Office Action asserts that the recited "sill" is met by the silicide 802 in Abadeer. But contrary to the assertions in the Office Action, Abadeer does not teach that the silicide 802 is formed and then patterned. To the contrary, Abadeer very clearly teaches that the silicide 802 is grown long after parts such as the gate 402 and the substrate 202 have been patterned. Accordingly, since Abadeer does not teach that a sill is formed and then patterned, Abadeer does not anticipate the recitation in Claim 17 of a patterned sill.

For the foregoing reasons, it is respectfully submitted that Abadeer does not disclose each and every element recited in Claim 17, and therefore does not anticipate Claim 17 under §102. Accordingly, independent Claim 17 is believed to be allowable over Abadeer, and notice to that effect is respectfully requested.

Independent Claim 17 is Not Anticipated by Lin

Independent Claim 17 stands rejected under 35 U.S.C. §102 as anticipated by Lin U.S. Patent Application Publication No. 2005/0224786. This ground of rejection is respectfully traversed, for the following reasons.

This §102 rejection is word-for-word identical to a §102 rejection presented in the most recent prior Office Action (mailed on July 18, 2006). As discussed earlier in these remarks, MPEP §707.07(f) specifies that:

Where the applicant traverses any rejection, the examiner should,  
if he or she repeats the rejection, take note of the applicant's  
argument and answer the substance of it.

The present Office Action fails to comply with this PTO requirement, in that nothing in the present Office Action serves to "take note of the applicant's argument and answer the substance

Appl. No. 10/824,854  
Reply to Office Action of November 21, 2006

Attorney Docket No. 2003-0964 / 24061.150  
Customer No. 42717

of it" (emphasis added). Applicants believe that if there was any meaningful answer to the substance of Applicants' argument, the Examiner would have complied with the PTO requirement by presenting that answer in the current Office Action. Further, Applicants continue to believe that Lin very clearly does not anticipate Claim 17.

In more detail, the PTO specifies in MPEP §2131 that, in order for a reference to anticipate a claim under §102, the reference must teach each and every element recited in the claim. Claim 17 expressly recites "... a sill located within the electrode ...". The Examiner asserts that this is disclosed in Lin. Applicants respectfully disagree.

In more detail, with reference to paragraph 32 and Figure 2 of the present application, Figure 2 discloses a biasing feature 250 (such as a transistor gate electrode) that is made of a conductive material (such as doped polysilicon). The conductive feature 250 has a sill 250a located in it. On the other hand, and contrary to the assertions in the Office Action, the sills in Figure 2 of Lin are not disposed within a conductive material, but instead are disposed within a semiconductor material. More specifically, Figure 2 of Lin discloses four sills 260a, 260b, 260c and 260d that are each disposed in a respective part 230a, 230b, 230c or 230d made of semiconductor material. None of the sills 260a-260d in Figure 2 of Lin is located within an electrode or other conductive material.

Lin thus does not disclose each and every element that is recited in Claim 17, and therefore does not meet the PTO requirement for anticipation under §102, as set forth in MPEP §2131. Claim 17 is thus believed to be allowable over Lin, and notice to that effect is respectfully requested.

Independent Claim 17 is Not Obvious in View of Montgomery

Independent Claim 17 stands rejected under 35 U.S.C. §103 as obvious in view of Montgomery U.S. Patent Application Publication No. 2004/0208454. In lines 6-7 on page 2 of the present Office Action, the Examiner asserts that Applicants requested the Examiner to impose this §103 obviousness rejection based on Montgomery. For the record, however, Applicants did not make any such request. In fact, this §103 rejection is respectfully traversed. In this regard, the PTO specifies in MPEP §2142 that:

Appl. No. 10/824,854  
Reply to Office Action of November 21, 2006

Attorney Docket No. 2003-0964 / 24061.150  
Customer No. 42717

The examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. If the examiner does not produce a *prima facie* case, the applicant is under no obligation to submit evidence of nonobviousness.

The MPEP is very specific about various minimum requirements that an Examiner must meet in order to establish a bare minimum case of obviousness, and those minimum requirements have not been met here. That is, Montgomery fails to establish a *prima facie* case of obviousness under §103 with respect to Claim 17, for mutually exclusive reasons that are discussed below.

#### THE REJECTION FAILS TO COMPLY WITH PTO REQUIREMENTS

MPEP §706.02(j) sets forth some of the minimum requirements that an Examiner must meet in order to establish a *prima facie* case of obviousness under 35 U.S.C. §103. In particular, MPEP §706.02(j) specifies that:

35 U.S.C. 103 authorizes a rejection where, to meet the claim, it is necessary to modify a single reference or to combine it with one or more other references. After indicating that the rejection is under 35 U.S.C. 103, the examiner should set forth in the Office action:

(A) the relevant teachings of the prior art relied upon, preferably with reference to the relevant column or page number(s) and line number(s) where appropriate,

(B) the difference or differences in the claim over the applied reference(s),

(C) the proposed modification of the applied reference(s) necessary to arrive at the claimed subject matter, and

Appl. No. 10/824,834  
Reply to Office Action of November 21, 2006

Attorney Docket No. 2003-0964 / 24061.150  
Customer No. 42717

(D) an explanation why one of ordinary skill in the art at the time the invention was made would have been motivated to make the proposed modification.

In the present situation, the §103 rejection fails to satisfy these four requirements. More specifically, applied to the present situation, these four requirements make it necessary for the Examiner to: (1) select and identify one of the two different embodiments respectively shown in Figures 16 and 18 of Montgomery, (2) list the differences between Claim 17 and the selected embodiment, (3) explain how the selected embodiment would need to be modified in order to arrive at the subject matter of Claim 17, and (4) explain why a person of ordinary skill would be motivated by the other embodiment to make the necessary modifications to the selected embodiment. The present Office Action does not do any of this. Instead, on page 5, the Examiner begins the explanation of the §103 rejection by asserting that "The third and fourth embodiments of Montgomery et al. combine to disclose a microelectronic device comprising . . .". The Examiner then goes on to discuss this hypothetical microelectronic device, based on the assumption that the embodiments of Figures 16 and 18 have already been combined. However, this approach does not conform to the PTO's required format for a §103 obviousness rejection, but instead begins from the point at which a proper obviousness rejection is supposed to end, thereby conveniently allowing the Examiner to skip over all of the PTO requirements associated with a proper §103 rejection. And as to the last of the requirements (motivation), the present Office Action briefly discusses motivation, but does not focus on the correct issue. As noted above, the correct issue is whether a person of ordinary skill would be motivated by the non-selected embodiment to make certain specific modification to the selected embodiment. But in the present §103 rejection, the Examiner simply asserts that, since Montgomery indicates the embodiments of Figure 16 and 18 are variations of each other, every possible combination of structure from them would necessarily be obvious. That approach to motivation does not comply with PTO standards.

For the reasons discussed above, it is respectfully submitted that the §103 rejection fails to satisfy any of the four minimum requirements specified in MPEP §706.02(j) for establishing a

Appl. No. 10/824,854  
Reply to Office Action of November 21, 2006

Attorney Docket No. 2003-0964 / 24061.150  
Customer No. 42717

prima facie case of obviousness. The §103 rejection is therefore necessarily defective. For this reason alone, it is respectfully submitted that the pending §103 rejection must be withdrawn, and notice to that effect is respectfully requested.

#### MONTGOMERY FAILS TO TEACH ALL CLAIM LIMITATIONS

MPEP §2142 specifies with respect to §103 that:

To establish a *prima facie* case of obviousness . . . the prior art reference (or references when combined) must teach or suggest all the claim limitations. (Emphasis added).

The PTO considers this requirement to be important, as evidenced by the fact that this exact language appears not only in MPEP §2142, but also in other sections of the MPEP, including MPEP §706.02(j) and MPEP §2143. Applicants' Claim 17 includes a recitation of:

. . . a patterned feature located over the substrate and over the plurality of doped regions, the patterned feature being part of a transistor and comprising at least one electrode . . .

On page 6, the present Office Action asserts that the electro-optic modulators shown in Figures 16 and 18 of Montgomery are each a transistor, thereby meeting the express reference in Claim 17 to a "transistor". Applicants respectfully traverse this assertion. The terms "transistor" and "electro-optic modulator" are both well-known terms of art, and each term designates a particular type of device. As discussed in paragraph [0008] of Montgomery, an electro-optic modulator is capable of modulating light. In contrast, a transistor has no optical characteristics, much less the specific capability to modulate light. Persons skilled in the art are well aware of what a transistor is, are well aware of what an electro-optic modulator is, and are also well aware that an electro-optic modulator is different from a transistor. The Examiner interprets the word "transistor" to encompass an electro-optic modulator, but this is not consistent with the industry-



Appl. No. 10/824,854  
Reply to Office Action of November 21, 2006

Attorney Docket No. 2003-0964 / 24061.150  
Customer No. 42717

accepted meaning of either term. Applicants have drafted Claim 17 to specifically refer to a "transistor" and, as discussed in MPEP §2111.01, this word is to be interpreted according to its industry-standard meaning, rather than some new and different meaning coined by the Examiner. Montgomery discloses several different electro-optic modulators, but none of them would be considered a "transistor" within the industry-standard meaning of the word "transistor". In fact, the only reason the Examiner is attempting to mischaracterize an electro-optic modulator as a different type of device is that the Examiner is effectively trying to force a square peg into a round hole using 20/20 hindsight of Applicants' disclosure.

Montgomery thus does not disclose each and every element that is recited in Applicants' Claim 17. Accordingly, Montgomery fails to satisfy the requirement of MPEP §2142 that the embodiments in Figures 16 and 18 of Montgomery must collectively "teach or suggest all the claim limitations" (emphasis added). Consequently, for this independent reason alone, it is respectfully submitted that Claim 17 is not obvious under §103 in view of Montgomery, and notice to that effect is respectfully requested.

For each of the various different reasons discussed above, it is respectfully submitted that the Examiner has not met any of the minimum requirements needed to properly establish a prima facie case of obviousness. Claim 17 is therefore not rendered obvious under §103 by Montgomery. Claim 17 is believed to be allowable, and notice to that effect is respectfully requested.

#### Dependent Claims

Claims 18-27 each depend from Claim 17, and are also believed to be distinct from the art of record, for example for the same reasons discussed above with respect to Claim 17.

#### Conclusion

Based on the foregoing, it is respectfully submitted that all of the pending claims are fully allowable, and favorable reconsideration of this application is therefore respectfully requested. If the Examiner believes that examination of the present application may be advanced in any way

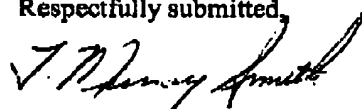
Appl. No. 10/824,854  
Reply to Office Action of November 21, 2006

Attorney Docket No. 2003-0964 / 24061.150  
Customer No. 42717

by a telephone conference, the Examiner is invited to telephone the undersigned attorney at 972-739-8647.

Although Applicants believe that no fee is due in association with the filing of this paper, the Commissioner is hereby authorized to charge any fee required by this paper, or to credit any overpayment, to Deposit Account No. 08-1394 of Haynes and Boone LLP.

Respectfully submitted,



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Enclosures: None

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